

WHAT IS CLAIMED IS:

1. A vest comprising water-soluble material.
2. The vest of Claim 1, wherein the vest is pre-washed.
3. The vest of Claim 1, wherein the vest is capable of being washed in an aqueous bath up to about 20 times without negatively impacting structural integrity of the vest.
4. The vest of Claim 1, wherein the water-soluble material comprises polyvinyl alcohol with or without acetyl groups, cross-linked or uncross-linked.
5. The vest of Claim 1, wherein the vest consists essentially of water-soluble material.
6. The vest of Claim 1, wherein the vest consists of water-soluble material.
7. The vest of Claim 1, wherein the vest comprises a closure system.
8. The vest of Claim 7, wherein the closure system comprises one or more zippers, drawstrings, snaps, buttons, adhesives, hoop and loop materials, or a combination thereof.
9. The vest of Claim 7, wherein the closure system comprises water-soluble material, water-dispersible material, or a combination thereof.
10. The vest of Claim 1, wherein the vest comprises two or more fabric sheets joined to one another with one or more sheet fastening devices.

11. The vest of Claim 10, wherein the one or more sheet fastening devices comprise thread, adhesives, hoop and loop materials, or a combination thereof.

12. The vest of Claim 10, wherein the one or more sheet fastening devices comprises water-soluble material, water-dispersible material, or a combination thereof.

13. The vest of Claim 1, wherein the vest comprises at least one single ply fabric, double ply fabric, fabric/film laminate, or combination thereof.

14. The vest of Claim 10, wherein each fabric sheet comprises spunlaced nonwoven fabric formed from polyvinyl alcohol fibers and having a basis weight of about 65 grams per square meter.

15. The vest of Claim 1, wherein the vest comprises one or more pockets.

16. The vest of Claim 15, wherein the vest is an ice vest and comprises up to about 6 pockets.

17. The ice vest of Claim 16, in combination with one or more pieces of ice or dry ice.

18. The vest of Claim 15, wherein the vest is a dosimetry vest and comprises about 5 pockets.

19. The vest of Claim 1, wherein the vest comprises pre-shrunk fabrics having a fabric shrinkage of less than about 5% when exposed to a washing cycle.

20. The vest of Claim 1, wherein the vest comprises nonwoven fabric substantially free of lint and static.

21. A method of reducing an amount of radioactive material generated by a contaminated product, wherein the method comprises:

(a) washing the contaminated product in an aqueous bath under washing condition such that a first water-soluble portion of the product does not become soluble, producing a washed product; and

(b) disposing of the washed product by placing the washed product in an aqueous bath under condition such that the first water-soluble portion of the product becomes soluble.

22. The method of 21, wherein the product comprises a vest, surgeon cap, a utility apron, a labcoat, a perforated wipe, a spill sock, a splash-resistant coverall, a sample bag, a waste bag, scrubs, modesty clothing, a spill mat or pad, or a glove liner.

23. The method of 22, wherein the product comprises a vest.

24. The method of 21, further comprising:
filtering the aqueous bath to remove at least a portion of the radioactive material.

25. The method of 21, further comprising:
adding an oxidizing agent to the aqueous bath in step (b);
heating the aqueous bath to a bath temperature of at least about 82.2°C (180°F); and
maintaining the bath temperature at least about 82.2°C (180°F) for a period of time.

26. The method of 25, further comprising:
adding a Fenton Reagent to the aqueous bath in step (b).

27. The method of 21, further comprising:
filtering the aqueous bath to remove non-solubilized material from the aqueous bath.

28. The method of 25, wherein the oxidizing agent comprises hydrogen peroxide.

29. A reusable vest for use in the nuclear industry, wherein after the vest is (i) exposed to one or more radioactive materials at an

exposure level of at least 1,000,000 disintegrations per minute as measured by an automatic laundry monitor and (ii) subsequently washed, the washed reusable vest has a contamination level of less than 25,000 disintegrations per minute as measured by the same automatic laundry monitor.

30. The reusable vest of Claim 29, wherein the washed reusable vest has a contamination level of less than 5,000 disintegrations per minute as measured by the same automatic laundry monitor.

31. The reusable vest of Claim 29, wherein the reusable vest comprises an ice vest.

32. The reusable vest of Claim 29, wherein the reusable vest comprises a dosimetry vest.